

- 4236 *Gonodontis duaria* Gn. Stood in part as *warneri*.
 4247 *Euchlæna obtusaria* Hbn.
 4248 " *effectaria* Wlk. (*effecta* Wlk.). Mixed with
obtusaria.
 4251 *Euchlæna johnsonaria* Fitch.
 4254 " *astylusaria* Wlk. Probably. This was under
marginata and *amoenaria*.
 4255 *Euchlæna marginata* Minot. Mixed with *pectinaria*.
 4256 " *pectinaria* D. & S.
 4261 *Eutrapela* (*Selenia*) *alcipheararia* Wlk.
 4272 *Metanema inatomaria* Gn.
 4273 " *determinata* Wlk.
 4281 *Priocycla armataria* H. & S.
 4292 *Azelina ancetaria* Hbn. (*Pero honestarius* Wlk.).
 4299 *Caberodes* (*Apicia*) *confusaria* Hbn.
 4300 " " *majoraria* Gn. = *confusaria*, according to
the new list.
 4304 *Tetracis crocallata* Gn.
 4307 *Sabulodes arcasaria* Wlk.
 4309 " *lorata* Grt.
 4319 " *transversata* Dru.
 4321 *Abbotana clemataria* S. & A.
 4330 *Brephos infans* Moeschl. One only.
 4333 *Leucobrephos brephoides* Wlk.

Epiplemidæ.

- 4336 *Callizzia amorata* Pack.

(To be continued.)

NEW SPECIES OF MICROLEPIDOPTERA.

BY ANNETTE F. BRAUN, CINCINNATI, OHIO.

HELIODINIDÆ.

Erineda aenea, n. sp.

Palpi and face pale buff, head yellowish, slightly purplish opalescent or brownish in the female. Basal segment of antennæ yellowish, stalk clothed with dark brown scales, except the last six or seven segments which are white. Antennæ of male with long, sparse ciliation in the basal half, with short cilia in the apical half. Thorax purplish opalescent. Fore wings dark golden brassy,

becoming darker towards apex. A velvety dark brown spot at base of costa is surrounded by opalescent purple, which gradually fades into the ground colour. The purplish opalescence is less noticeable in the female. Hind wings brownish brassy. Hind tibiae bright yellow, with upper edge and spines orange-tinged, apex black; hind tarsi blackish above, whorls of spines yellowish. Abdomen concolorous with hind wings at base, dark brown toward tip, anal tuft in male yellowish.

Expanse 8-9 mm.

Localities.—Cincinnati, O.; Clermont Co., O.

Type and two paratypes in author's collection.

This species may be distinguished from *E. elyella* Busck by the larger basal brown spot, much darker colour, with absence of dorsal light streak, and by the different antennal coloration and structure.

The larvæ feed on the spores of two species of ferns, the narrow-leaved spleenwort (*Asplenium angustifolium*) and the silvery spleenwort (*A. acrostichoides*). A web, beneath which the larva feeds, is spun along the underside of the leaflet, often extending for three-fourths its length by the time the larva reaches maturity. When young the larva mines into the sorus, eating out the greater portion of the spores and leaving the indusium hollow. Later the larva becomes too large to mine and consumes the entire sorus, except the annuli of the sporangia, in many places leaving only the ridge along which the indusium was fastened to the leaf, indicating perhaps that this is also consumed in addition to the spores. Near the beginning of the web, and to one side of the midrib, a circular opening leads to the upper side. Protecting the opening on the upper side, and broadest and thickest just over the opening, is a tubular web tapering and crossing the midrib diagonally. It is somewhat raised at the beginning, but flattens toward its narrow end, where there is an opening through which the larva ejects the frass. On the underside of the leaf, the web is also thickest over the circular hole. The web is decorated with the innumerable rejected annuli of the sporangia, which cover closely those portions around the circular opening, both on the upper and under surfaces of the leaf, thus affording protection to the larva when not feeding. The larva while feeding is yellowish

white with slightly darker head and prothoracic shield; at maturity it turns to a bright vermilion orange colour. It spins a double cocoon of very fine, white silk, broadly oval, with one end a little more pointed, the inner cocoon more elongate than the outer.

The larvæ may be found in September; the exact time of reaching maturity depends upon the time of spore production in the ferns. *Asplenium acrostichoides* produces fertile fronds and ripe spores a couple of weeks in advance of *A. angustifolium*. Where both species of ferns occur together, full-grown larvæ may be collected on the former species when the larvæ on the latter have eaten but one or two sori on each side of the midrib. The imagos emerge during the latter part of July and early August.

In repose the moth rests with the brightly coloured hind legs raised above the body.

YPONOMEUTIDÆ.

Argyresthia pallidella, n. sp.

Palpi pale yellowish white, fuscous beneath. Face and head yellowish white, tuft almost white, antennæ grayish yellow, annulate with dark brown. Thorax and fore wings pale shining yellowish white; extreme costa in the basal fourth dark brown. Cilia whitish. Hind wings very pale gray or concolorous with the fore wings, cilia whitish. Legs whitish, tibiæ and tarsi of the first pair fuscous. Abdomen brownish yellow at base, gray behind except tip, which is whitish yellow.

Expanse 11 mm.

Locality.—San Bernardino Mts., California, July 7.

Type and paratype in author's collection.

The specimens were collected amongst fir, which is perhaps the food plant. This species is very similar to *A. laricella* Kearf, the chief difference being the darker annulated antennæ.

Swammerdamia cuprescens, n. sp.

Head and face white; palpi white with fuscous under surface; basal segment of antenna white, stalk dark fuscous, annulate with pale gray. Thorax white, very sparsely sprinkled with pale gray specks. General colour of the fore wing pale gray, due to gray-tipped whitish scales, with the base of the wing somewhat darker gray. There is a dark gray half-crescent-shaped mark situated at the basal third of the dorsum, curving slightly outwards and

not reaching the costa. There are some longitudinal series of dark fuscous spots lying chiefly near the costa and dorsum. At the beginning of the cilia is a white costal spot; beyond it the apical portion of the wing is dark fuscous, the fuscous shade usually extending downward to the dorsum. Cilia dark with a coppery lustre and a dark fuscous line through the middle. Hind wings pale gray, closely irrorated with fuscous. Legs pale gray; tibiae and tarsi of the first pair and tibiae of the second pair dark fuscous; tarsal segments tipped with fuscous. Abdomen gray.

Expanse 12.5–13.5 mm.

Locality.—Field, B.C.

Type and two paratypes in author's collection; one paratype in the collection of the Entomological Branch, Department of Agriculture, Ottawa.

Four specimens bred from larvæ in webs on birch (*Betula glandulosa*), Field, B.C. Larvæ were also collected on alder at Glacier, B.C., but no moths were reared. Larvæ collected in August, pupated in a few days, and the moths appeared in the breeding jars in April and May of the following year.

This species differs from the European *S. heroldella*, also a birch feeder, by the distinct coppery lustre of the cilia.

***Xyrosaris ochroplagiata*, n. sp.**

Palpi white with under surface irrorated with blackish, except towards apex. Face dusted; head pure white; antennæ white with fuscous annulations. Thorax white slightly dusted. Base of wings irrorated with fuscous-tipped scales, blackish toward costa; beyond this is a pale ochreous, almost undusted area, extending obliquely from costa to dorsum, and broadening toward the dorsum, occupying approximately one-fourth the wing area; remainder of the wing covered with more or less deeply fuscous-tipped white scales, mingled with patches of whitish and ochreous. Immediately following the basal ochreous area, near middle of dorsum is a small, curved, white streak, margined outwardly with a patch of scales, darker tipped than general over the wing. A similar dark patch on costa opposite. A white costal spot at beginning of cilia. Several rows of very minute tufts of black scales; immediately below costa, along middle of wing, just above fold, and one or two of a fourth row below fold on outer half of wing; the largest tufts

are those at the basal third and above the tornus belonging to the row above the fold. Cilia ochreous, with a line of dark-tipped scales. Hind wings gray, with a faint ochreous tinge; cilia gray, ochreous at extreme bases. Fore and middle legs closely irrorated with fuscous, hind legs sparsely speckled. Abdomen gray, margins of segments whitish.

Expanse 11.5 mm.

Locality.—Winnfield, La., June 26 (G. R. Pilate).

Type in author's collection.

GRACILARIIDÆ.

Acrocercops affinis, n. sp.

Palpi with whitish ground colour more or less obscured with fuscous dusting; second segment of labial palpus white on the under surface, elsewhere fuscous; third segment with the base white followed by a narrow, blackish annulus which is succeeded by a narrow whitish annulus, remainder of segment fuscous. Antennæ fuscous faintly paler annulated. Head whitish more or less densely streaked with fuscous. Fore wings brownish fuscous, dusted, marked with a series of ten transverse whitish strigulae, the first eight equidistant, the last two in the apical cilia; these strigulae are most distinct on the costa, obsolete or ill-defined where they cross the middle of the wing, and ending in whitish spots on the dorsum. The first streak is usually nearly obsolete; the fourth ends in a whitish blotch on the dorsum; the seventh is more oblique and more clearly defined in the middle of the wing than the preceding ones; the eighth encloses the apex. The fifth streak on the costa is sometimes double. The ground colour is more or less darkened on the margins between the streaks, especially between the fourth and fifth, and sixth and seventh costal streaks; and between the second and third, and fourth and fifth dorsal streaks. Hind wings and cilia gray. Legs whitish banded with fuscous. Abdomen gray.

Expanse 9.5–10 mm.

Localities.—Yosemite National Park, California; San Bernardino Mts., California.

Types in author's collection.

A large series bred from upper side blotch mines on oak, both deciduous and evergreen. The mine starts as a narrow, white

line, expanding abruptly into a large, white blotch, within which the parenchyma is to a large extent consumed. Cocoon oval, brownish, ornamented with a few whitish globules. Larvæ collected June 20 (San Bernardino Mts.); July 26 (Glacier Point, Yosemite), at which time they were nearly full grown, produced imagos in about two weeks.

Closely allied to *A. strigosa*, from which it differs by having the transverse lines broken and less distinct and a little more irregularly placed.

Ornix spiraeifoliella, n. sp.

Palpi grayish white, face grayish white, tuft of gray and whitish scales intermixed, antennæ gray, faintly annulate. Thorax and fore wings uniform shining seal brown; a white line on each side of the thorax is continuous with a broad, white basal streak above the fold to one-fifth; base of dorsum narrowly and indistinctly white; from one-third of costa a very oblique costal streak narrowing below costa into faint line, then expanding in the middle of the wing, where it meets, almost at right angles, the apex of a less oblique streak from the middle of the dorsum. A second slightly oblique spot at the middle of costa; somewhat oblique narrow costal and dorsal streaks at two-thirds meeting in the middle of the wing; following them a pair of inwardly oblique streaks. A large triangular, white costal spot lying chiefly in the cilia just before apex, is more or less distinctly divided into two by a gray streak; opposite it a white spot in the terminal cilia; cilia elsewhere concolorous with wing; extreme apex of wing slightly darker than ground colour. Hind wings and cilia gray. Legs gray, banded with white.

Expanse 6.5 mm.

Locality.—Field, B.C.

Type in author's collection.

The larva mines the underside of leaves of *Spiraea* sp., making a much wrinkled mine in which the parenchyma is entirely consumed; in the breeding jar the larva on leaving the mine, folded the leaf inwards with upper surfaces together; later made a fold on to the underside in the usual way; cocoon in a folded edge of the leaf. Larva collected August 22; moth the following spring.

A very distinct species, belonging in the group of *guttea*, *kalmiella* and *preciosella*.

Gracilaria hypericella, n. sp.

Face whitish; palpi whitish, with the tip of the maxillary palpi and the tip of the second segment of the labial palpi and outer and upper surface, and sometimes the entire apical half of the third segment except the extreme tip, blackish. Head ochreous, more or less overlaid with fuscous purple. Ground colour of the fore wing ochreous, more or less overlaid with shining purplish fuscous; usually the costal third of the wing, except toward base and in the apical fourth, is comparatively free from purplish dusting. There is a series of minute fuscous dots on the costal edge; in darker specimens sometimes indistinctly continued across the wing. The dark scales form an indistinct spot in the middle of the disk. Cilia fuscous, with three or four indistinct, darker lines running through them. Hind wings and cilia gray. Fore and middle legs black, except the tarsi; hind legs whitish dusted with fuscous; tarsi white with black tips.

Expanse 8.5-10 mm.

Localities.—Cincinnati, O.; Clermont Co., O.

Types in author's collection.

Seventeen specimens, reared from larvæ on St. John's Wort, *Hypericum cistifolium*, and *H. punctatum*. The larva makes a small linear mine, usually distinctly visible on the upper side of the leaf; this mine enlarges into an elongate blotch on the underside, 7 or 8 mm. long and 2 mm. or less wide, which becomes tentiform, resembling a minute *Lithocolletis* mine. The cone is rolled from the tip of the leaf downward on to the lower side, usually taking up the entire small leaf. The cocoon is spun on the underside, the leaf being curled over so as entirely to conceal the cocoon. On leaves of *Hypericum cistifolium*, the cocoon is almost always placed near the tip over the midrib, and the leaf on both sides is curled over the cocoon. Larvæ and cocoons collected July 20 and August 27; one captured specimen July 8.

This species is close to *G. desmodiella*, but lacks the violet tint of that species and the discal spot is never distinct.

Gracilaria ferruginella, n. sp.

Labial palpi densely dusted with reddish fuscous outwardly, yellowish on inner side, with third segment slightly dusted except at extreme tip; third segment thickened with scales to near apex. Head and thorax purplish brown, slightly mixed with ochreous.

Antennæ purplish fuscous, annulate with ochreous. Fore wings purplish brown, somewhat mixed with ochreous; rarely the ochreous predominates. Beneath the fold irrorated with blackish fuscous; these blackish scales are aggregated into a large spot beneath the trigonal mark. Wing sprinkled with whitish or ochreous spots along the fold. An indistinctly outlined trigonal spot at one-third, is marked on the costa by a series of black spots, usually two larger followed by four small ones; between the trigonal spot and an elongate ochreous spot beyond, the ground colour deepens on the costa to blackish fuscous. The second spot is also marked on costa with blackish dots. Sometimes the trigonal marks are obliterated by fuscous purplish ground colour which then suffuses almost uniformly the entire wing. A few ochreous costal spots along margin from beginning of cilia; one at extreme apex; more conspicuous whitish spots along termen; sometimes irregularly placed whitish dots along dorsal margin. Cilia rust red, especially at their bases and along termen near tornus; conspicuously marked with a dark brown band which crosses in a broad curve from the tips of the costal cilia to the tips of the terminal cilia just beyond the tornus, almost touching the apex; tips also of the apical cilia dark brown. Hind wings and cilia gray. Fore and middle legs closely dusted with fuscous purple, tarsi white with black tips; hind legs gray. Abdomen gray.

Expanse 15 mm.

Localities.—Yosemite Valley, California; Mt. Tamalpais, Marin Co., California; San Bernardino Mts., California.

Types in author's collection.

Three specimens, from larvæ on Azalea, *Rhododendron occidentale*, from Yosemite, and a series of about twenty-five captured specimens.

The larva makes a tentiform mine on the under surface of the leaf, later rolling the leaf from tip down into a cone. The cocoon is whitish elongate. The larvæ were collected July 29, yielding moths about the middle of August; the captured specimens were taken July 9 to 30.

The markings of the cilia are the most distinguishing characteristic of this species. In some of its forms it approaches varieties of *G. alnivorella*, from which the markings in the cilia and thickened palpal segment will always separate it.